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DOI:

[10.1017/S0140525X18002388](https://doi.org/10.1017/S0140525X18002388)

*Document Version*

Peer reviewed version

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*Citation for published version (APA):*

Livingston, L. A., Shah, P., & Happe, F. (2019). Compensation in autism is not consistent with social motivation theory. *Behavioral and Brain Sciences*, 42, [e99]. <https://doi.org/10.1017/S0140525X18002388>

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Journal: *Behavioral and Brain Sciences*

Format: Commentary on Jaswal & Akhtar

Word counts: Abstract - 58, Main Text - 1000, References - 324, Total - 1382

### **Compensation in Autism is Not Consistent with Social Motivation Theory**

Lucy Anne Livingston<sup>1\*</sup>, Punit Shah<sup>2</sup>, and Francesca Happé<sup>1</sup>

<sup>1</sup> Social, Genetic and Developmental Psychiatry Centre, Institute of Psychiatry, Psychology  
and Neuroscience, King's College London, London, SE5 8AF, UK

<sup>2</sup> Department of Psychology, University of Bath, Bath, BA2 7AY, UK

\*corresponding author

Email addresses: LAL (lucy.livingston@kcl.ac.uk), PS (p.shah@bath.ac.uk), FH  
(francesca.happe@kcl.ac.uk)

URL: PS ([www.punitqshah.com](http://www.punitqshah.com))

**Abstract**

Growing evidence, as presented by Jaswal and Akhtar, indicates that social motivation is not universally reduced in autism. Here, we evaluate and extend this argument in light of recent evidence of ‘compensation’ in autism. We thereby argue that autistic ‘compensators’ – exhibiting neurotypical behaviour despite persistent difficulties in social cognition – indicate intact or potentially heightened social motivation in autism.

### **Main Text**

Jaswal & Akhtar (J&A) challenge the view that social motivation is universally reduced in autism by exploring alternative explanations for common autistic behaviours and presenting autistic testimony. Additional research supporting this view, not discussed by J&A, is found in the growing literature on ‘compensation’ in autism. Compensation refers to the mechanism underlying improved behavioural presentation (i.e., reduced symptoms) of a condition such as autism, despite ongoing atypicalities at cognitive and/or neurobiological levels (Livingston & Happé, 2017). An autistic ‘compensator’ may therefore appear non-autistic in their social behaviour so that they ‘pass’ as neurotypical, but continue experiencing social cognitive differences and difficulties. For example, they may compensate for a core difficulty in understanding others’ mental states (i.e., in theory of mind) by using alternative cognitive processes to navigate social situations. This might involve using general cognitive abilities (Lai et al., 2017) to learn and apply social rules (e.g., making deliberate eye contact) and engage in socially normative interactions (e.g., small talk). In a recent study (Livingston, Colvert, Social Relationships Study Team, Bolton, & Happé, 2018), we reported evidence for many ‘high compensators’ who, despite poor theory of mind task performance, showed neurotypical social skills as measured using the Autism Diagnostic Observation Schedule (Lord et al., 2000). Crucially, the existence of high compensators is not consistent with the notion that autistic people do not seek or value social contact, as predicted by social motivation theory (e.g., Chevallier, Kohls, Troiani, Brodtkin, & Schultz, 2012). Instead, high compensators appear motivated to overcome substantial social cognitive difficulties by adopting neurotypical social rules and interactive styles, indicating that at least a subgroup of autistic individuals have intact social motivation. More broadly, the existence of compensation in autism follows J&A’s argument that, while social motivation may be

reduced in some autistic people, several behaviours observed in autism can be explained by cognitive mechanisms unrelated to social motivation.

Further evidence that many autistic people, particularly those showing high levels of compensation, are socially motivated comes from empirical reports on the phenomenological experience of compensation. Whereas J&A focus on autistic testimony in anecdotal form, a new body of qualitative research indicates that many autistic people are motivated to compensate to fit into and succeed in the social world (e.g., maintain relationships and employment). Qualitative responses indicate, for example, a desire to avoid social rejection (e.g., *“avoid looking like a social clumsy idiot”*; Hull et al., 2017, p. 2525) and behave like neurotypical individuals to make social connections (*“I do like people...I would not get along with people at all if I relied on my...autistic impulses”*; personal communication, 2017). This involves several strategies, such as masking socially undesirable behaviours (e.g., hiding special interests), and employing active compensatory strategies (e.g., pre-planning conversations) to superficially demonstrate ‘good’ social skills (Dean, Harwood, & Kasari, 2017; Hull et al., 2017; Tierney, Burns, & Kilbey, 2016). Additionally, some of the anecdotes presented by J&A could be viewed in the context of compensation. For example, *“I did not give up but started to talk to and hang around a group of ‘popular’ girls”* (Harris, 2015, as cited in J&A), describes a common compensatory strategy of affiliating with and copying socially skilled people. Together, we suggest that the existence and frequent use of compensatory strategies is not consistent with a central tenet of the social motivation theory that autistic people do not work to manage their reputation.

Evidence of compensation indicates that social motivation may even be atypically high in autism. We tentatively speculate that autistic compensators may require greater social

motivation than neurotypical people to overcome social cognitive difficulties and perform comparably in social situations. Such heightened motivation is possible given that many autistic people actively choose to use compensatory strategies despite substantial costs to their psychological resources and mental health. Indeed, they report expending energy on compensation, comparing it to physical exercise or mental arithmetic, thus draining resources required for daily functioning (Hull et al., 2017; Tierney et al., 2016). Compensation has been linked with anxiety (Livingston et al., 2018), depression (Lai et al., 2018) and suicidal ideation (Cassidy, Bradley, Shaw, & Baron-Cohen, 2018), indicating a potential cost of using compensatory strategies to mental health. One possible explanation for this is because compensatory strategies can be rudimentary (e.g., inflexible across different contexts and break down under stress; Livingston & Happé, 2017), allowing one to ‘pass’ as neurotypical, but may not be sufficient to experience fulfilling social interactions. This could leave autistic compensators feeling isolated and at risk for mental health problems, especially given their potentially high levels of social motivation.

Although we have focused on intact or heightened social motivation in autism, the literature on compensation also provides clues about why some autistic people appear to have reduced social motivation. In light of the emerging link between compensation and costs to mental health, reduced social motivation could be an adaptive developmental response to limited social cognitive and compensatory resources (see Johnson, 2017). Accordingly, instead of compensating, some autistic individuals choose to be in environments where non-social skills are valued over social skills (Livingston & Happé, 2017). Reduced social motivation may therefore help to protect these individuals against mental health problems otherwise experienced by autistic compensators. As such, we propose that intact social motivation in autism may not be as positive as framed by J&A and caution against suggestions that reduced

social motivation, where observed in autism, should necessarily be targeted in clinical interventions.

In summary, we support J&A's central claim that reduced social motivation is not a universal feature of autism, but extend this argument with research on compensation in autism. We have argued that autistic compensators reflect a subgroup of autistic people with intact or potentially heightened social motivation, but equally, that the costs of compensation may explain why some autistic people appear to have reduced social motivation. Moving forward, we suggest that research aimed at disentangling the interrelationships between compensation, social motivation and mental health could help design interventions to improve the wellbeing of autistic people who may be socially different, yet socially motivated.

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